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10/008,053	11/09/2001	Matthew Hur	50325-0590	2815

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EXAMINER

SHIFERAW, ELENI A

ART UNIT PAPER NUMBER

2136

DATE MAILED: 11/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/008,053

Applicant(s)

HUR, MATTHEW

Examiner

Eleni A. Shiferaw

Art Unit

2136

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31 August 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5, 8-10, 13-20 and 23-32 is/are pending in the application.
- 4a) Of the above claim(s) 5, 6, 11, 12, 21 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-10, 13-20 and 23-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Response to Amendment***

1. Applicant's arguments/amendments with respect to canceled claims 6-7, 11-12, and 21-22, amended claims 1, 8, 13, 18, 23, 30, 31, and 32, presently pending claims 1-5, 8-10, 13-20, 23-32, filed on August 31, 2005 have been fully considered but they are not persuasive. The examiner would like to point out that this action is made final (MPEP 706.07a).

2. Examiner accepts the amended drawings dated August 31, 2005.

***Response to Arguments***

3. Applicant argues that:

a. Independent claims 1, 8, 18, 30-32 are not taught by neither of the references to include wherein *"a method of registering a non-configured network device in a telecommunication network," as recited in the preamble of the claims, and "receiving a message from a first non-configured network packet routing device,"* (page 12).

b. The references, whether alone or in combination, fail to support in all independent claims wherein *"receiving a request from a second network packet routing device to obtain a session key for secure communications between the second device and the first device, based on authenticating the shorter-lived symmetric key wherein the request includes the shorter-lived symmetric key of the first device."* ().

However, Examiner disagrees with applicant.

Regarding argument (a), Argument is not persuasive because applicant's arguments, the recitation "a method of registering a non-configured network device in a telecommunication network", has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). However Sprunk teaches configuring/registering a non-configured CTA to establish communication session with servers, controllers, KDCs, IP Telephony network entities, gateways, and **other CTAs** (please see, par. 0106-0116, Fig. 5A,B, 0067, and par 0042).

Regarding argument (b), Argument is not persuasive. Sprunk discloses KDC that is configured to distribute symmetric encryption keys to secure communications between devices (see, abstract). The security is based on Kerberos where a KDC distributes tickets and session keys to the CTAs so that they can use those tickets and session keys to establish secure signaling channels with **other CTAs** (peer-peer) (please see, par. 0042, and claim 1).

The examiner is not trying to teach the invention but is merely trying to interpret the claim language in its broadest and reasonable meaning. Therefore, the examiner asserts that the system of the prior art, Sprung and Ganesan teach or suggest the subject matter as recited in

independent claims 1, 8, 18, and 30-32. Dependent claims 2-5, 9-10, 13-17, 19-20, 23-29 are also rejected at least by virtue of their dependency on independent claims and by other reason set forth in this office action dated November 3, 2005. Accordingly, rejections for claims 1-5, 8-10, 13-20, 23-32 are respectfully maintained.

*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-5, 8-10, 13-20, 23-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sprunk et al. (Sprunk, Pub. No.: US 2005/0027985 A1) in view of Ganesan (Patent Number: 5,737,419).

As per claim 1 Sprunk teaches a method of registering a non-configured network device in a telecommunications network, the method comprising the computer-implemented steps of:

receiving a message from a first non-configured network device that requests network services (Sprunk Fig. 3 No. 310, page 3 par. 0043 lines 6-10, and page 5 par. 5 lines 1-3);

authenticating the first device based on a longer-lived symmetric key received from the first device (Sprunk page 2 par. 0033);

generating and providing a shorter-lived symmetric key to the first device based on authenticating the longer-lived symmetric key (Sprunk Fig. 3 No. 320; key validity period);

receiving a request from a second network packet routing device to obtain a session key for secure communications between the second device and the first device (Sprunk page 1 lines 12-20, and page 3 par. 0043);

generating and providing a symmetric session key to the second device for use in subsequent secure peer-to-peer communications between the first device and the second device without communication of either the first device or second device to a key management service or authoritative authentication service (Sprunk page 3 par. 0042);

registering the first device in the network at a trusted device registration service (Sprunk page 4 par. 0055, 0106-0116, and Fig. 5A,B; registering non-configured CTAs at HFC of IP telephony network/controller);

authenticating the first device to the trusted device registration service (par. 0011 lines 11-18, 0043, 0047-0051, and 0055);

providing trusted information to the trusted device registration service registration service that certifies that the first device as a known device within a security realm (0055, 0106-0116, and Fig. 5A,B; signed certificate from manufacturer and/or network operator); and

providing information identifying the device registration service to the first device for use in obtaining the longer-lived symmetric key (0105, 0055, and 0067; manufacturer generated lifetime certificate to CTAs).

Sprunk does not explicitly teach the shorter-lived symmetric key.

However Ganesan teaches the shorter-lived symmetric key (Ganesan col. 5 lines 2-7).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to employ the teachings of Ganesan within the system of Sprunk because the damage an attacker can cause by learning the short-lived key is significantly less than the damage which might be caused by compromise of long term key. (Ganesan col. 5 lines 2-7).

As per claims 8, 18, and 30-32, Sprunk teaches a method/medium/apparatus for distributing cryptographic keys in a data network, comprising:

- a network packet routing interface that is coupled to the data network for receiving one or more packet flows therefrom (Sprunk page 1 par. 0012);

- a processor (Sprunk Fig. 2A No. 222);

- one or more stored sequences of instructions which, when executed by the processor, cause the processor to carry out the steps of:

- providing a registration service identifier that identifies an administrative entity to a first device and providing a unique identifier of the first device to the administrative entity (Sprunk page 5 par. 0067);

- associating a device private key in a secure data repository that is accessible by the administrative entity (Sprunk page 4 par. 0055);

- establishing a longer-lived symmetric key for the first device (Sprunk Fig. 3 No. 320, and page 5 par. 0068; key validity period);

- authenticating the first device based on receiving the longer-lived symmetric

key from the first device (Sprunk page 2 par. 0033, and page 5 par. 0068; authenticating CTAs based on CTA request that has manufacturer certificate);

receiving a request from a second network routing device to obtain a session key for secure communications among the second device and the first device (Sprunk page 1 lines 12-20, and page 3 par. 0043);

generating and providing a symmetric session key to the second device for use in subsequent secure peer-to-peer communications between the first device and the second device without communication of either the first device or second device to a key management service or authoritative authentication (Sprunk page 3 par. 0042);

registering the first device in the network at a trusted device registration service (page 4 par. 0055, 0106-0116, and Fig. 5A,B; registering non-configured CTAs at HFC of IP telephony network/controller);

authenticating the first device to the trusted device registration service (par. 0011 lines 11-18, 0043, 0047-0051, and 0055);

generating trusted information for the trusted device registration service that certifies that the first device as a known device within a security realm (0055, 0106-0116, and Fig. 5A,B; signed certificate from manufacturer and/or network operator); and

generating information identifying the device registration service to the first device for use in obtaining the longer-lived symmetric key (0105, 0055, and 0067; manufacturer generated lifetime certificate to CTAs).

Sprunk does not explicitly teach the shorter-lived symmetric key.



However Ganesan teaches the shorter-lived symmetric key (Ganesan col. 5 lines 2-7).

Therefore it would have been obvious to one having ordinary skill in the art at the time of the invention was made to employ the teachings of Ganesan within the system of Sprunk because the damage an attacker can cause by learning the short-lived key is significantly less than the damage which might be caused by compromise of long term key. (Ganesan col. 5 lines 2-7).

As per claim 2, Sprunk and Ganesan teach all the subject matter as described above. In addition, Ganesan teaches a method, wherein the shorter-lived symmetric key is encapsulated in a ticket that includes data identifying a specified lifetime of the shorter-lived symmetric key (Ganesan col. 4 lines 56-col 5 lines 2-7). The rationale for combining are the same as claim 1 above.

As per claim 3, Sprunk and Ganesan teach all the subject matter as described above. In addition, the combination of Sprunk and Ganesan teach a method, further comprising the steps of receiving, at the second device, a request from the first device to obtain a session key on behalf of both the first device and second device, wherein the request includes the shorter-lived symmetric key of the first device (Sprunk page 5 par. 0071, and Ganesan col. 5 lines 2-7).

As per claim 4, Sprunk and Ganesan teach all the subject matter as described above. In addition, Sprunk teaches a method, wherein the subsequent secure communications comprise successive symmetric encryption and decryption operations using the symmetric session key, and wherein the first device and second device carry out the subsequent secure communications without

contact with a key management service or registration service (Sprunk page 2 par. 0031, page 1 par. 0011 lines 12-20).

As per claim 5, Sprunk and Ganesan teach all the subject matter as described above. In addition, Sprunk teaches a method, further comprising the steps of:

receiving a request from a first device that wishes to communicate securely with a second device to register with a trusted registration service (Sprunk Fig. 1 No. 310);

authenticating the first device (Sprunk page 2 par. 0033); and

in response to authenticating the first device, providing a longer-lived symmetric key to the first device (Sprunk Fig. 3 No. 320; key validity period).

As per claim 7, Sprunk and Ganesan teach all the subject matter as described above. In addition, Sprunk teaches a method, further comprising the steps of:

providing trusted information to the trusted registration service that certifies that the first device as a known device within a security realm (Sprunk page 5 par. 0067, and fig. 3 No. 310);  
and

providing information identifying the registration service to the first device for use in obtaining the longer-lived symmetric key (Sprunk Fig. 3 No. 320).

As per claims 9 and 19, Sprunk and Ganesan teach all the subject matter as described above. In addition, Sprunk teaches a method/medium/apparatus, teaches a method wherein the step of associating a device private key with a data repository comprises the steps of generating a public

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key pair comprising a device public key and a device private key and storing the device private key in a database or directory that is accessible to the administrative entity (Sprunk page 4 par. 0055).

As per claims 10 and 20, Sprunk and Ganesan teach all the subject matter as described above. In addition, Sprunk teaches a method/medium/apparatus, wherein the step of associating a device private key with a data repository comprises the steps of generating a public key pair comprising a device public key and a device private key and registering the device private key with a certification authority that is accessible to the administrative entity (Sprunk page 4 par. 0055).

As per claims 13 and 23, Sprunk and Ganesan teach all the subject matter as described above. In addition, Sprunk teaches a method/medium/apparatus, wherein generating trusted information for the trusted registration service comprises the steps of creating and storing an association of a unique identifier of the first device and the device public key in a secure database that is accessible to the registration service, and providing the unique identifier from the first device to the registration service (Sprunk page 4 par. 0055, and page 5 par. 0068).

As per claims 14 and 24, Sprunk and Ganesan teach all the subject matter as described above. In addition, Sprunk teaches a method/medium/apparatus, wherein establishing a longer-lived symmetric key comprises the steps of:

generating the longer-lived symmetric key (Sprunk Fig. 3 No. 320);

encrypting the longer-lived symmetric key using the device public key (Sprunk Fig. 3 No. 320, and page 3 par. 0044);

encapsulating the encrypted longer-lived symmetric key in a device registration ticket (Sprunk page 3 par. 0044 lines 1-3); and

sending the device registration ticket to the device (Sprunk page 5 par. 0071 and page 3 par. 0044-0045).

As per claims 15 and 25, Sprunk and Ganesan teach all the subject matter as described above. In addition, Sprunk teaches a method/medium/apparatus, wherein encapsulating the encrypted key comprises encapsulating the encrypted longer-lived symmetric key with policy information in the device registration ticket, wherein the policy information defines a validity interval of the encrypted longer-lived symmetric key (Sprunk Fig. 3 No. 320, and page 3 par. 0046).

As per claims 16 and 26, Sprunk and Ganesan teach all the subject matter as described above. In addition, the combination of Sprunk and Ganesan teach a method/medium/apparatus, wherein generating and providing a short-term symmetric key to the first device includes the steps of encapsulating the short-term symmetric key in a short-term ticket granting ticket with associated policy information (Sprunk page 4 par. 0055, and Ganesan col. 4 lines 56-col 5 lines 2-7). The rationale for combining are the same as claim 8 above.

As per claims 17 and 27, Sprunk and Ganesan teach all the subject matter as described above. In addition, the combination of Sprunk and Ganesan teach a method/medium/apparatus, wherein

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the step of receiving a request from a second device to obtain a session key for secure communications among the second device and the first device comprises the steps of:

receiving a first short-term ticket granting ticket that includes the short-term symmetric key of the first device (Ganesan col. 23 lines 60-col. 24 lines 13, and col. 5 lines 2-7);

receiving a second short-term ticket granting ticket that includes the short-term symmetric key of the second device (Ganesan col. 23 lines 60-col. 24 lines 13, and col. 5 lines 2-7);

decrypting the first and second short-term ticket granting tickets based on respective first and second shared secret keys (Sprunk page 4 par. 0055, and Ganesan col. 4 lines 56-col 5 lines 2-7);

authenticating the short-term symmetric keys of the first device and second device based on the respective first and second shared secret keys (Sprunk page 4 par. 0055, and Ganesan col. 4 lines 56-col 5 lines 2-7); and

generating and providing a symmetric session key to the second device for use in subsequent secure peer-to-peer communications between the first device and the second device without communication of either the first device or second device to a key management service or authoritative authentication service (Ganesan col. 8 lines 21-32, and Sprunk page 3 par. 0042). The rational for combining are the same as claim 8 above.

### *Conclusion*

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 20030105812 A1, US 20030065731 A1, US 20030046398, and US 5479514.

*(Peer to peer communication session request to key server/other peer is very well known at the time of the invention).*

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

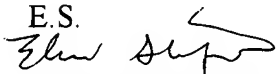
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eleni A. Shiferaw whose telephone number is 571-272-3867. The examiner can normally be reached on Mon-Fri 8:00am-5:00pm.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz R. Sheikh can be reached on 571-272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

E.S.



November 3, 2005



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